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(54) Cosmetic compositions for
conditioning the hair or the skin

(57) The cosmetic composition
consists of two separate liquid phases,
the first phase being an oily phase and
the second phase being an aqueous
phase containing at least one cationic
polymer in the dissolved state.

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SPECIFICATION

Cosmetic compositions for conditioning the hair or the skin, and their application

5 The present invention relates to cosmetic compositions for conditioning the hair or the skin, and their application.

- 10 Oils and mixtures of oils have always been used for conditioning the hair, in particular dry or sensitised hair, that is to say hair which has been degraded by exposure to inclement environments (sun, sea water and the like) or also by treatments such as perming, colouring and bleaching.
- 15 Similarly, oily cosmetic compositions have been used for conditioning the skin, that is to say for making dry, wrinkled or rough skin supple and soft to the touch.
- 20 When applied to the hair, after rinsing and/or shampooing, oils, despite their ease of application and impregnation, impart the desired properties, that is to say an appreciable softness to the touch, a glossy appearance and a protective effect against the environment, only to a small extent. Likewise,
- 25 the use of a purely oily composition for the skin is not entirely satisfactory, in particular because of the difficulties of uniform spreading, the resulting greasy appearance and the "greasy" sensation which is unpleasant to the touch.
- 30 It is for this reason that the use of oil-based products has for some time been rather neglected in favour of other, more effective products for conditioning and protecting sensitised hair and the skin. These new products, which are used in modern
- 35 cosmetic compositions, are especially polymers of the polyamine, polyaminoamide or poly-(quaternary ammonium) type, the amine or ammonium groups forming part of the polymer chain or being joined to the latter. Polymers of this type, and their
- 40 use in cosmetic compositions, have been described in numerous publications, and cosmetology specialists have grouped all these polymers together in a class which is generally designated by the expression "cationic polymers". Although these cationic
- 45 polymers can have varied effects, specialists have recognised that they all have the common property, albeit to various extents, of attaching themselves to the skin and the hair and of making the hair easier to comb out when wet.
- 50 However, attempts to incorporate cationic polymers into oils have not made it possible to produce effective cosmetic compositions. In certain cases, it has been impossible to incorporate the cationic polymers into the oils because the said polymers
- 55 could not be isolated in the dry state and only existed in aqueous solution, or the polymers were not soluble in the oils. In other cases, it was possible to incorporate the polymer into the oils, but the effectiveness of the polymers was then very low
- 60 because their ability to attach to the skin or the hair was inhibited in the oily medium.
- 65 A further possibility for combining the effects of oils and cationic polymers was first to apply an aqueous solution of cationic polymer and then to apply an oil. However, these attempts also failed

because either the amount of water (aqueous solution of cationic polymer) is too small and it is not possible to distribute it uniformly over the whole head of hair, or the amount of water is sufficient for an efficient distribution over the hair, but the oil is then distributed poorly over the hair when wet. Likewise, the oil is distributed poorly over the skin when wet.

70 It has now been discovered that it is possible to combine the cosmetic effects of oils and cationic polymers by virtue of a particular, non-detergent and non-foaming composition, which forms the subject of the present invention.

75 The present invention provides a cosmetic composition for conditioning the skin or the hair, characterised in that it consists of two separate liquid phases, the first phase being an oily phase and the second phase being an aqueous phase in which at least one cationic polymer is dissolved, and in that 80 the said composition is free of detergents and foaming agents.

85 The oils which can be used in the compositions of the present invention are in general the oils which can be used in cosmetic products for the skin or for

90 the hair.

These are especially vegetable oils, such as sweet-almond oil, groundnut oil, wheatgerm oil, linseed oil, jojoba oil, apricot stone oil, walnut oil, palm oil, pistachio nut oil, sesame oil, rapeseed oil, cade oil, maize germ oil, peach stone oil, poppy seed oil, pine oil, castor oil, soya oil, avocado oil, safflower oil, coconut oil, hazelnut oil, olive oil, grapeseed oil and sunflower seed oil.

95 The oily phase of the compositions of the invention can also contain animal oils, such as whale oil, lard oil, horsehoof oil, tuna oil, caballine oil, otter oil, egg oil, sheep oil, seal oil, turtle oil, halibut liver oil, marmot oil, cod liver oil, neat's-foot oil and tallow oil.

100 105 The oily phase can also contain a synthetic oil preferably consisting of carbon, hydrogen and oxygen, such as the glycol ethers or esters or glycerol ethers or esters described in French Patents No. 74/09,657, No. 75/24,656 and Nos. 75/24,657 and 75/24,658.

110 110 The oily phase can also contain a mineral oil, such as vaseline oil (liquid petrolatum).

115 Preferably, the oily phase is free of silicone oils.

In general, it is preferred to use a vegetable oil mixed, if appropriate, with an animal oil and/or a

120 mineral or synthetic oil as defined above.

125 In this preferred embodiment, the proportion of vegetable oil is generally from 25% to 100% by volume, relative to the total volume of the oily phase, any remainder consisting of one or more animal, synthetic and/or mineral oils.

130 As indicated above, the cationic polymers which can be used in the cosmetic products for the hair constitute a class which is well known to cosmetology specialists. Cationic polymers of this type are polycationic products described, in particular, in the following French Patents and French Patent Applications: 2,077,143, 1,492,597, 2,162,025, 2,280,361, 2,252,840, 2,368,508, 1,583,363, 2,080,759, 2,190,406, 2,320,330, 2,270,846, 76/20,261, 2,336,434, 2,413,907 and 2,189,434, and in U.S. Patents 3,227,615,

2,961,347, 2,273,780, 2,375,853, 2,388,614, 2,454,547, 3,206,462, 2,261,002, 2,271,378, 3,874,870, 4,001,432, 3,929,990, 3,956,904, 4,005,193, 4,025,617, 4,025,627, 4,025,653, 4,026,945, 3,589,978, 4,031,307 and

5 4,027,020.

The cationic polymers used in the composition of the invention are thus generally polymers of the polyamine, polyaminoamide or poly-(quaternary ammonium) type, the amine or ammonium group 10 forming part of the polymer chain or being joined to the latter.

Polymers of this type which can be used according to the invention are especially:

1. vinylpyrrolidone/aminoalcohol acrylate or 15 methacrylate copolymers (quaternised or unquaternised), such as those sold under the name Gafquat by the Gaf Corp., such as "copolymer 845" and "Gafquat 734 or 755", described in greater detail, in particular, in French Patent 2,077,143;

20 2. cellulose ether derivatives containing quaternary ammonium groups, such as those described in French Patent 1,492,597 and especially the polymers sold under the name JR, such as JR 125, JR 400 and JR 30 M, and under the name LR, such as LR 400 and 25 LR 30 M, by the Union Carbide Corp., and cationic cellulose derivatives, such as CELQUAT L 200 and CELQUAT L 60 and H 100 sold by National Starch;

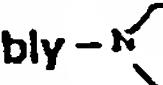
30 3. cationic polysaccharides, such as those described in U.S. Patents 3,589,978 and 4,031,307, and in particular Jaguar C 13 S sold by MEYHALL and CELANESE;

35 4. cationic polymers chosen from:
a) polymers containing units of the formula:

$-A-Z-A-Z-$, in which A denotes a radical containing 40 two terminal amino groups, preferably $-N$  - and

Z denotes the symbol B or B'; B and B', which are identical or different, denote a divalent radical which is a straight or branched-chain alkylene radical 45 which contains up to 7 carbon atoms in the main chain, which is unsubstituted or substituted by one or more hydroxyl groups and which can also contain chain oxygen, nitrogen or sulphur atoms and 1 to 3 aromatic and/or heterocyclic rings, the oxygen, nitrogen and sulphur atoms being present in the form of an ether or thioether, sulphoxide, sulphone, sulphonium, amine, alkylamine, alkenylamine, benzylamine, amine oxide, quaternary ammonium, amide, imide, alcohol, ester and/or urethane group;

50 these polymers and the process for their preparation are described in French Patent 2,182,025;

b) polymers containing units of the formula: $-A-Z,-A-Z,-$, in which A denotes a radical containing 55 two terminal amine groups, preferably $-N$  -

and Z, denotes the symbol B, or B', being the symbol B', at least once; B, denotes a divalent radical which is a straight- or branched-chain alkylene or hydroxyalkylene radical having up to 7 carbon atoms.

60 In the main chain, and B', is a divalent radical which is a straight- or branched-chain alkylene radical which has up to 7 carbon atoms in the main chain, which is the unsubstituted or substituted by one or more hydroxyl radicals and which is interrupted by 65 one or more nitrogen atoms, the nitrogen atom

being optionally substituted by an alkyl chain which has from 1 to 4, and preferably 4, carbon atoms, which is optionally interrupted by an oxygen atom and which optionally contains one or more hydroxyl groups; these polymers and the process for their preparation are described in French Patent 2,280,361; and

70 c) the quaternary ammonium salts and the oxidation products of the polymers of the formulae indicated above under a) and b);

75 5. optionally alkylated, crosslinked polyaminoamides chosen from at least one water-soluble crosslinked polymer obtained by crosslinking a polyamino-polyamide (A) prepared by the

80 polycondensation of an acid compound with a polyamine, the acid compound being chosen from: (i) organic dicarboxylic acids, (ii) aliphatic monocarboxylic and dicarboxylic acids with an ethylenic double bond, (iii) the esters of the abovementioned

85 acids, preferably the esters with lower alkanols having from 1 to 6 carbon atoms, and (iv) mixtures of these compounds. The polyamine is chosen from amongst bis-primary and mono- or di-secondary polyalkylene-polyamines. Up to 40 mol % of this

90 polyamine can be replaced by a bis-primary amine, preferably ethylenediamine, or by a bis-secondary amine, preferably piperazine, and up to 20 mol % can be replaced by hexamethylenediamine. The crosslinking is carried out by means of a crosslinking

95 agent (B) chosen from epihalogenohydrins, diepoxides, dianhydrides, unsaturated anhydrides and bis-unsaturated derivatives, and is characterised in that it is carried out using 0.025 to 0.35 mol of crosslinking agent per amine group of the polyamino-

100 polyamide (A) and generally using 0.025 to about 0.2, and in particular 0.025 to about 0.1, mol of crosslinking agent per amine group of the polyamino-polyamide (A). These polymers and their preparation are described in greater detail in French Patent 105 Application No. 2,252,840.

110 It is also possible to use, on the one hand, the polyaminoamides A, and, on the other hand, the water-soluble crosslinked polyaminoamides obtained by crosslinking a polyaminoamide A (described above) by means of a crosslinking agent chosen from:

115 (I) compounds chosen from (1) bis-halogenohydrins, (2) bis-azetidinium compounds, (3) bis-halogenoacyl-diamines and (4) bis-(alkyl halides);

120 (II) the oligomers obtained by reacting a compound (a) chosen from the (1) bis-halogenohydrins, (2) bis-azetidinium compounds, (3) bis-halogenoacyl-diamines, (4) bis-(alkyl halides), (5) epihalogenohydrins, (6) diepoxides and (7) bis-unsaturated derivatives, with a compound (b) which is a difunctional compound which is reactive towards the compound (a); and

125 (III) the quaternisation product of a compound chosen from the compounds (a) and the oligomers (II) and containing one or more totally or partially alkylated tertiary amine groups, with an alkylating agent (c) preferably chosen from methyl or ethyl chlorides, bromides, iodides, sulphates, mesylates 130 and tosylates, benzyl chloride or bromide, ethylene

oxide, propylene oxide and glycidol, the crosslinking being carried out using 0.025 to 0.35 mol, in particular 0.025 to 0.2 mol and more particularly 0.025 to 0.1 mol, of crosslinking agent per amine group of the 5 polyaminoamide.

These crosslinking agents and these polymers, and also the process for their preparation, are described in French Application No. 2,368,508;

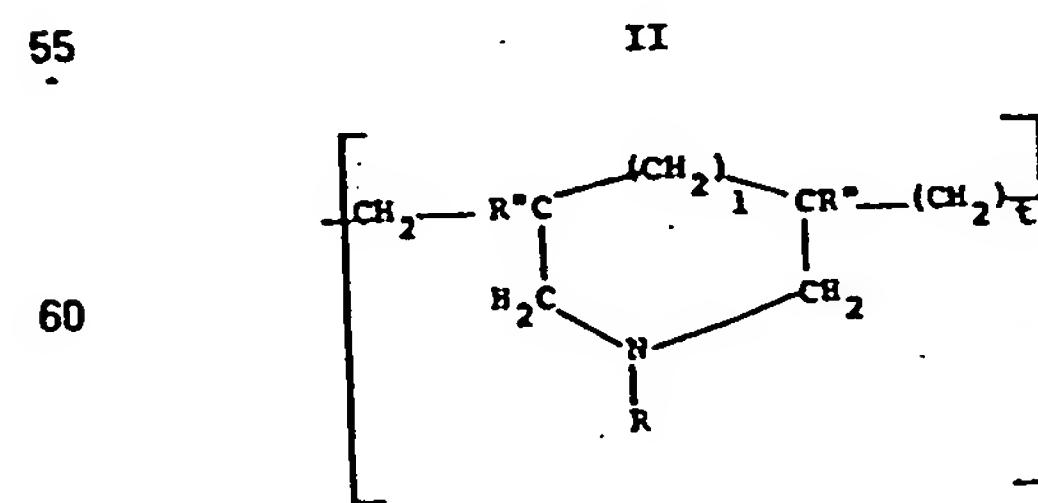
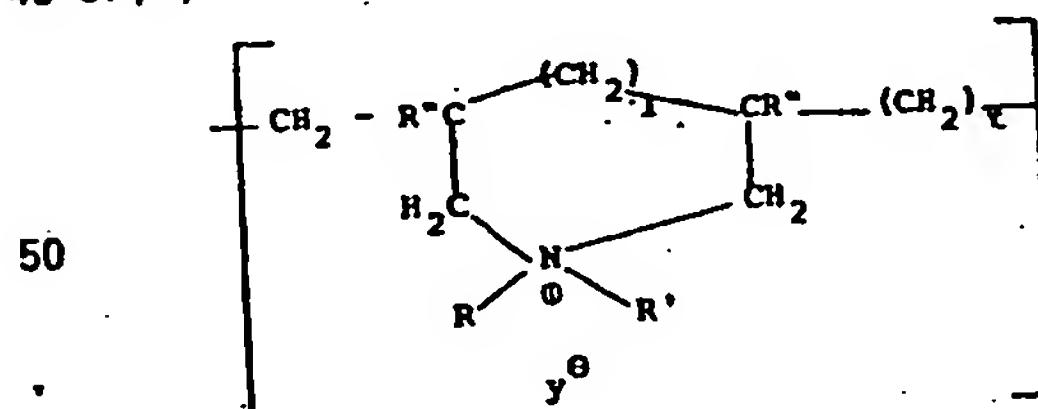
6. the water-soluble polyaminoamide derivatives 10 resulting from the condensation of polyalkylene-polyamines with polycarboxylic acids, followed by alkylation by means of difunctional agents, such as the adipic acid/dialkylaminohydroxyl - dialylenetriamine copolymers in which the alkyl radical contains 1 to 4 carbon atoms and preferably denotes methyl, ethyl or propyl, which are described in 15 French Patent 1,583,363.

Amongst these derivatives, there may be mentioned the adipic acid/dimethylaminohydroxypropyl 20 - diethylene - triamine copolymers sold under the name Cartaretine F, F₁ or F₂ by SANDOZ;

7. the polymers obtained by reacting a polyalkylene - polyamine containing two primary amine groups and at least one secondary amine group, 25 with a dicarboxylic acid chosen from diglycolic acid and saturated aliphatic dicarboxylic acids having 3 to 8 carbon atoms, the molar ratio of the polyalkylene-polyamine to the dicarboxylic acid being 0.8:1 to 1.4:1, and the resulting polyamide being reacted 30 with epichlorohydrin in a molar ratio of epichlorohydrin to the secondary amine groups of the polyamide of 0.5:1 to 1.8:1; these polymers are mentioned in U.S. Patents 3,227,615 and 2,961,347.

The polymers of this type are especially that sold 35 under the name HERCOSETT 57 by Hercules Incorporated, which has a viscosity at 25°C of 30 cps in 10% strength aqueous solution, and that sold under the name PD 170 or DELSETTE 101 by Hercules, which is an adipic acid/epoxypropyl - diethylene-triamine copolymer.

8. water-soluble cyclic polymers having a 40 molecular weight of 20,000 to 3,000,000, such as the homopolymers containing, as the main constituent of the chain, units corresponding to the formula (III) 45 or (III'):



in which t and t are equal to 0 or 1, $t = 1$ if $t = 0$ and $t = 0$ if $t = 1$, R'' denotes hydrogen or methyl, R and R' independently if one another denote an alkyl group having from 1 to 22 carbon atoms, a hydroxyalkyl

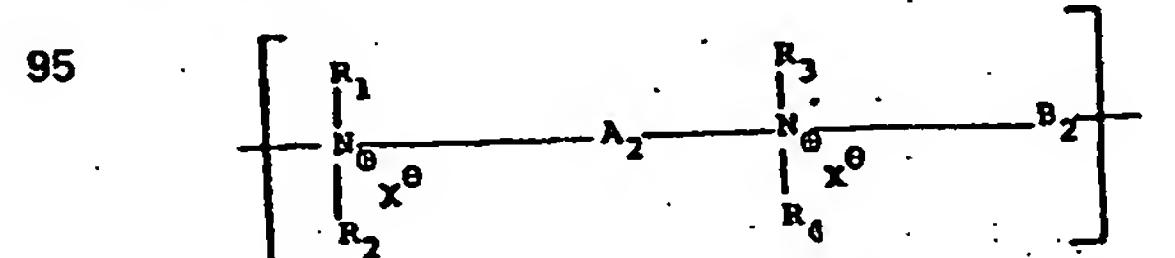
70 group in which the alkyl group preferably has 1 to 5 carbon atoms, or a lower amidoalkyl group, or R and R' denote, together with the nitrogen atom to which

75 they are attached, heterocyclic groups such as piperidinyl or morpholinyl, and y^0 is an anion, such as bromide, chloride, acetate, borate, citrate, tartrate, bisulphite, bisulphite, sulphate or phosphate, and also the copolymers containing units of the formula II or II' and, preferably, units derived from acrylamide or from diacetone - acrylamide.

80 Amongst the quaternary ammonium polymers of the type defined above, there may be mentioned the dimethyl - diallylammonium chloride homopolymer sold under the name MERQUAT 100, which has a molecular weight of less than 100,000, and the dimethyldiallylammonium chloride/acrylamide copolymer having a molecular weight of more than 500,000, which is sold under the name MERQUAT 550 by MERCK.

These polymers are described in French Patent 90 2,080,759 and its Certificate of Addition No. 2,190,406.

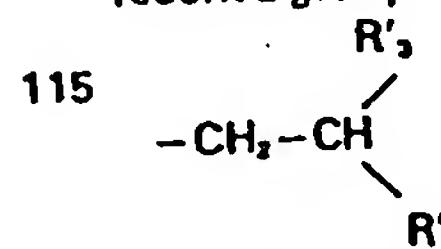
9. water-soluble poly-(quaternary ammonium) compounds containing repeat units of the formula:



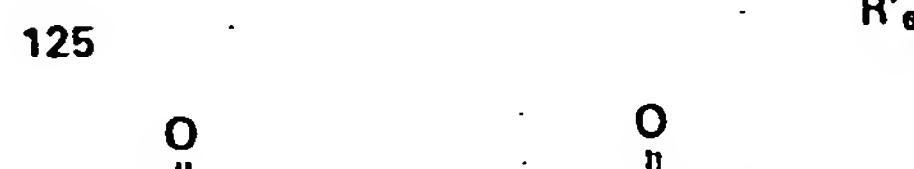
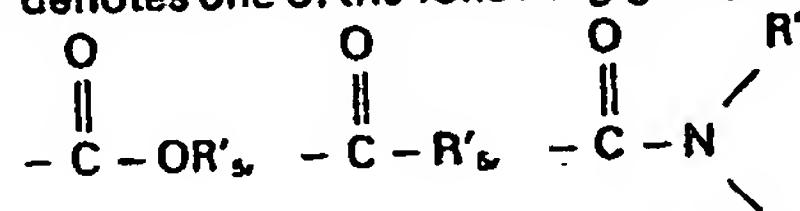
100 In which R_1 and R_2 and R_3 and R_4 , which are identical or different, represent lower aliphatic or hydroxylaliphatic radicals having a maximum of 4 carbon atoms, it being possible however, for one of them to represent an aliphatic radical containing from 5 to 16

105 carbon atoms, an alicyclic radical or an arylaliphatic radical, provided that, in this case, the sum of the numbers of carbon atoms in the groups A_2 and B_2 is equal to at most 12, or alternatively R_1 , R_2 , R_3 and R_4 together or separately form, with the nitrogen atoms

110 to which they are attached, heterocyclic rings optionally containing a second hetero-atom other than nitrogen, or alternatively R_1 , R_2 , R_3 and R_4 represent a group



In which R' denotes hydrogen or lower alkyl and R' denotes one of the following groups: $-CN$,

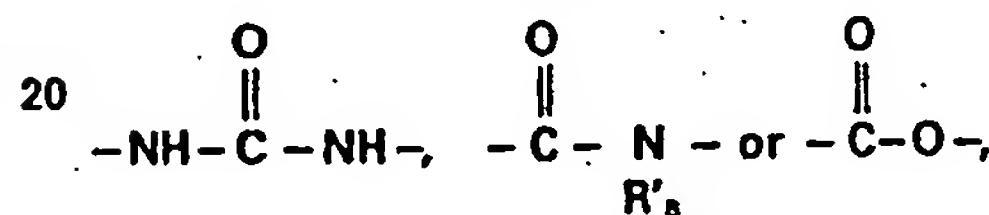
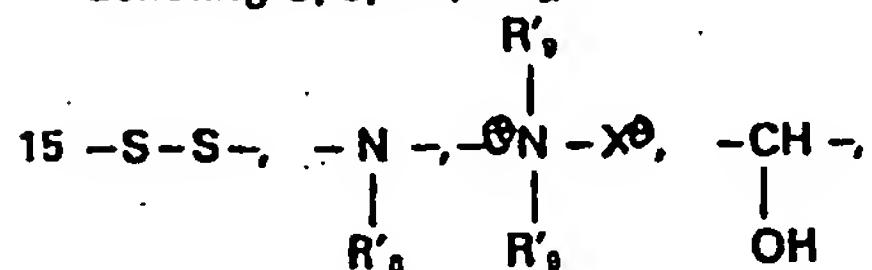


130 R' denotes lower alkyl, R' denotes hydrogen or

lower alkyl, R', denoting alkylene and D denoting a quaternary ammonium group, A₂ and B₂ represent divalent groups, for example polymethylene groups containing from 2 to 20 carbon atoms, which can be 5 linear or branched and saturated or unsaturated and which can contain, inserted in the main chain, one or more aromatic rings, such as the group



10 or one or more groups $-(\text{CH}_2)_n-\text{Y}-$, $-(\text{CH}_2)_n-\text{Y}$, denoting O, S, SO, SO₂,

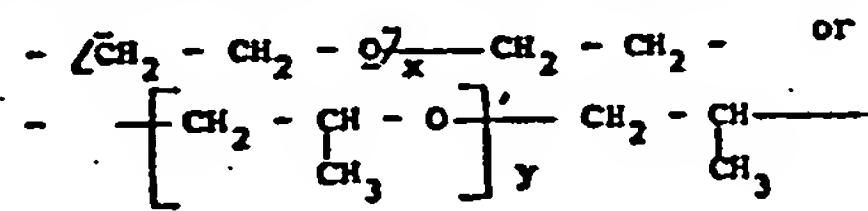


with X^o denoting an anion derived from a mineral or organic acid, n being 2 or 3, R', denoting hydrogen 25 or lower alkyl and R', denoting lower alkyl, or alternatively A₂ and R, and R, form a piperazine ring with the two nitrogen atoms to which they are attached; moreover, if A denotes a linear or branched, saturated or unsaturated, aliphatic or hydroxyaliphatic 30 e.g. alkylene or hydroxyalkylene radical, B can also denote a group:



In which D denotes:

a) a glycol radical of the formula $-\text{O}-\text{Z}-\text{O}-$, in 35 which Z denotes a linear or branched hydrocarbon radical or a group corresponding to the formulae:



40 in which x and y denote an integer from 1 to 4, representing a definite and unique degree of polymerisation or any number from 1 to 4, representing an average degree of polymerisation (in the case of a mixture);

b) a bis - secondary diamine radical, such as a piperazine derivative of the formula:



50 c) a bis - primary diamine radical of the formula: $-\text{NH}-\text{Y}-\text{NH}-$

in which Y denotes a linear or branched hydrocarbon radical or the divalent radical $-\text{CH}_2-\text{CH}_2-\text{S}-\text{S}-$

55 CH_2-CH_2- ; or

d) a ureylene group of the formula $-\text{NH}-\text{CO}-\text{NH}-$; and X^o is an anion, such as chloride or bromide.

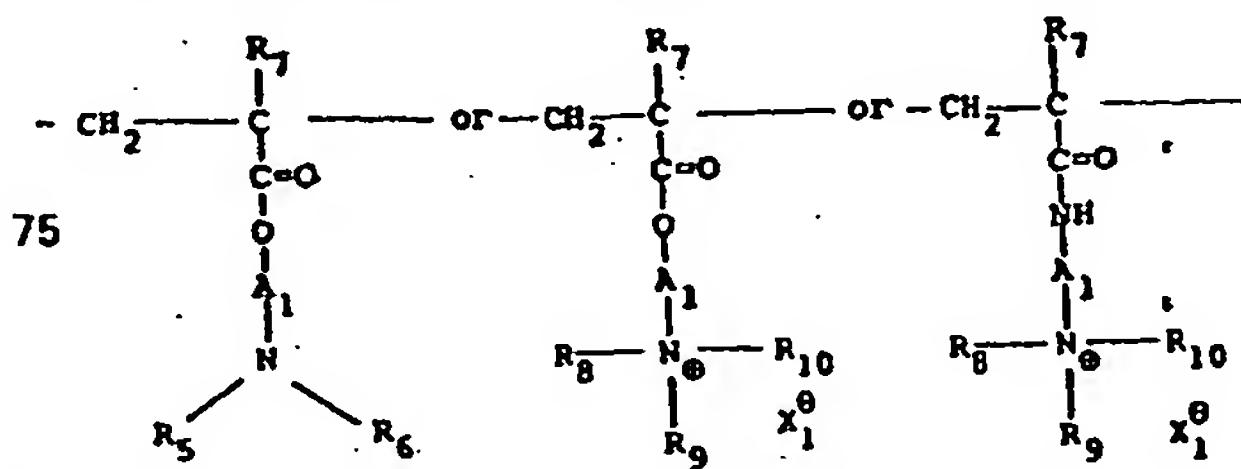
These polymers have a molecular weight which is generally 1,000 to 100,000.

60 Polymers of this type are described, in particular, in French Patents 2,320,330 and 2,270,846, French Applications 76/20,261 and 2,336,434 and U.S. Patents 2,273,780, 2,375,853, 2,388,614, 2,454,547, 3,206,462, 2,281,002 and 2,271,378.

65 Other polymers of this type are described in U.S.

Patents 3,874,870, 4,001,432, 3,929,990, 3,966,904, 4,005,193, 4,025,617, 4,025,627, 4,025,653, 4,026,945 and 4,027,020.

10. homopolymers or copolymers derived from 70 acrylic or methacrylic acid and containing the unit:



in which R, is H or CH₃, A, is a linear or branched alkyl group having 1 to 6 carbon atoms or a hydroxylalkyl group having 1 to 4 carbon atoms, R₈, R₉ and R₁₀, which are identical or different, represent an alkyl group having 1 to 18 carbon atoms or a benzyl group, R₅ and R₆ represent H or alkyl having 1 to 6 carbon atoms, and X₁ denotes halogen, such as chlorine or bromine, or methosulphate.

The comonomer or comonomers which can be used are typically: acrylamide, methacrylamide, diacetone - acrylamide, acrylamide and methacrylamide substituted on the nitrogen by lower alkyl, alkyl esters of acrylic and methacrylic acids, vinylpyrrolidone and vinyl esters.

95 The following may be mentioned by way of example:

the acrylamide/beta - methacryloyloxyethyltrimethylammonium methosulphate copolymer sold under the names Reten 205, 210, 220 and 240 by

100 Hercules,

the ethyl methacrylate/oleyl methacrylate/beta-methacryloyloxyethyl - diethyl - methylammonium methosulphate copolymers listed under the name Quaternium 38 in the Cosmetic Ingredient Dictionary,

105 the ethyl methacrylate/abietyl methacrylate/beta-methacryloyloxyethyl - diethyl - methylammonium methosulphate copolymer listed under the name Quaternium 37 in the Cosmetic Ingredient Dictionary,

110 the beta - methacryloyloxyethyl - trimethylammonium bromide polymer listed under the name Quaternium 49 in the Cosmetic Ingredient Dictionary,

115 the beta - methacryloyloxyethyl - trimethylammonium methosulphate/beta - methacryloyloxyethyl - stearyltrimethylammonium methosulphate copolymer listed under the name Quaternium 42 in the Cosmetic Ingredient Dictionary,

120 the aminoethylacrylate phosphate/acrylate copolymer sold under the name Catrex by National Starch, and

the graft and crosslinked cationic copolymers having a molecular weight of 10,000 to 1,000,000 and 125 preferably of 15,000 to 500,000, which result from the copolymerisation of:

- at least one cosmetic monomer,
- dimethylaminoethyl methacrylate,
- polyethylene glycol and
- 130 a polyunsaturated crosslinking agent,

these copolymers being described in French Patent 2,189,434.

5 The crosslinking agent is typically: ethylene glycol dimethacrylate, a diallyl phthalate, divinylbenzene, tetraallyloxyethane or a polyallyl sucrose.

The cosmetic monomer can be of a very varied type, for example a vinyl ester of an acid having from 2 to 18 carbon atoms, an allyl or methallyl ester of an acid having from 2 to 18 carbon atoms, an acrylate or 10 methacrylate of a saturated alcohol having from 1 to 18 carbon atoms, an alkyl vinyl ether in which the alkyl radical has from 2 to 18 carbon atoms, an olefine having from 4 to 18 carbon atoms, a vinyl heterocyclic derivative, a dialkyl or N,N - dialkylaminoalkyl maleate in which the alkyl radicals have from 1 to 3 carbon atoms, or an anhydride of an unsaturated acid.

Other cationic polymers which can be used are, for example, polyalkyleneimines, in particular 20 polyethyleneimines, polymers containing vinyl-pyridine units or vinylpyridinium units in the chain, condensates of polyamines and epichlorohydrin, poly-(quaternary ureylene) compounds and chitin derivatives.

25 In the compositions of the invention, the proportion of the aqueous phase is preferably from 2 to 50% by volume, relative to the total volume of the composition.

The cationic polymer which is dissolved in the 30 aqueous phase is suitably present in the composition of the invention in an amount of 0.2 to 50% by weight, relative to the total weight of the composition.

Apart from the cationic polymer, the aqueous 35 phase can contain, in the dissolved state, especially, preservatives, thickeners, colorants and/or water-soluble solvents, such as alcohols (in particular ethanol). If they are present, these solvents suitably represent a maximum of 50% by volume, relative to 40 the total volume of the aqueous phase.

The oily phase can contain, especially, anti-oxidants, colorants and/or perfumes, in the dissolved state. The compositions of the present invention are usually free of detergents and foaming agents.

45 More generally, they are free of anionic and amphoteric surface-active agents; most frequently, the compositions of the present application are free of any surface-active agent. However, in certain cases, they can contain a small amount (less than 3% 50 by weight) of a cationic surface-active agent present as a cosmetic agent. In fact, it is known that cationic surface-active agents have a conditioning effect when deposited onto the hair or the skin.

This invention also relates to the application of the 55 two-phase composition described above, that is to say its use for treating and conditioning the hair, especially dry or sensitised hair, and for treating and conditioning the skin, in particular dry, wrinkled or rough skin or skin lacking in suppleness.

60 In the case of hair conditioning, the composition should be shaken in order to obtain a dispersion of the aqueous phase in the oily phase; typically from 5 to 40 cm³ of the composition shaken in this way is applied to the head of hair and the composition is 65 left to act for at least five minutes and the hair is then

rinsed. If desired, the hair can then be washed with a shampoo, preferably with an anionic shampoo.

Preferably, the composition is left to act for at least five minutes. It is of course possible to leave the 70 composition to act for several hours.

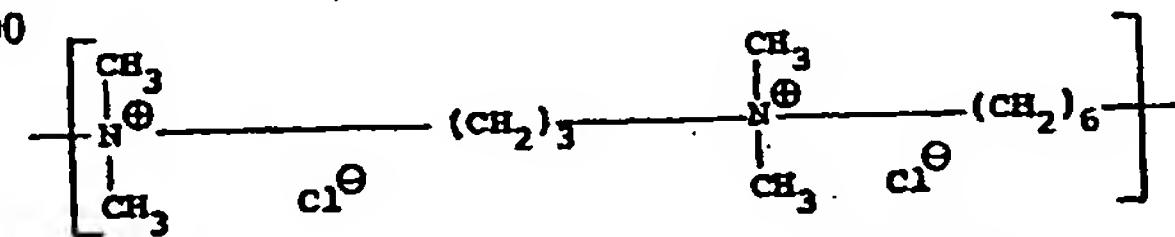
In general, this hair conditioning can be effected before or after a shampooing, colouring, bleaching, perming or straightening operation.

In the case of skin conditioning, the composition

75 should again be shaken in order to obtain a dispersion of the aqueous phase in the oily phase, and the composition shaken in this way spread over the skin, the latter being massaged if desired. Any excess composition can be removed with an absorbent wad (of fabric, cottonwool or paper), but, in contrast to the case of the hair, the composition need not be rinsed off. Preferably, the composition is applied to skin which has been cleaned beforehand.

80 The following Examples further illustrate the present invention.

In these Examples, the meanings of the symbols denoting the cationic polymers are as follows:
Polymer P₁: polymer consisting of units of the formula:



95 which can be prepared as described in French Patents 2,270,846 and 2,333,012.
JR 400: hydroxyethylcellulose/epichlorohydrin polymer quaternised with trimethylamine, having a viscosity of 400 cps and sold by Union Carbide.
100 Merquat 100: dimethyldiallylammonium chloride homopolymer having a molecular weight of less than 100,000 and sold by Merck & Co.
CARTARETINE F.4: adipic acid/dimethylamino-hydroxypropyl-diethylenetriamine copolymer sold by Sandoz.

Polymer P₂: polycondensate of equimolecular amounts of adipic acid and diethylenetriamine, crosslinked with epichlorohydrin (11 mols of epichlorohydrin per 100 amino groups) and described in French Patent 110 2,252,840.

Example 1: The oily and aqueous phases having the following compositions are prepared:

Oily phase

maize oil: 20 cc

115 antioxidant q.s.^{*}

perfume q.s.

colorant q.s.

sunflower seed oil q.s.p.: 100 cc

* q.s. means: sufficient quantity.

120 *Aqueous phase*

polymer P₁: 5 g (a.i. *)

preservative q.s

colorant q.s.

water q.s.p: 100 cc

125 * a.i. means: active ingredient

The two-phase composition is obtained by bringing together 2 cm³ of the aqueous phase and 18 cm³ of the oily phase.

After shaking, the composition is applied to dry or 130 sensitised hair. After an interval of 5 minutes to 4

hours, but preferably after 15 minutes, the hair is rinsed and then shampooed.

The hair is easy to comb out when wet. The hair is soft, bulky and glossy when dry.

5 Comparable results are obtained by using the following compositions:

Example 2: 16 cc of oily phase and 4 cc of aqueous phase are mixed, the phases having the following compositions:

10 *Oily phase*

avocado oil: 10 cc
antioxidant q.w

perfume q.s
colorant q.s

15 rapeseed oil q.s.p: 100 cc

Aqueous phase
polymer P₁: 1.5 g (a.i.)

JR 400: 1 g (a.i.)

preservative q.s

20 colorant q.s

water q.s.p: 100 cc

Example 3: 18 cc of oily phase and 2 cc of aqueous phase are mixed, the phases having the following compositions:

25 *Oily phase*

castor oil: 5 cc
antioxidant q.s

perfume q.s
colorant q.s

30 soya oil q.s.p: 100 cc

Aqueous phase

Merquat 100: 3 g (a.i.)
Cartaretine F₄: 5 g (a.i.)

preservative q.s

35 colorant q.s

water q.s.p: 100 cc

Example 4: 16 cc of oily phase and 4 cc of aqueous phase are mixed, the phases having the following compositions:

40 *Oily phase*

Identical to that of Example 3

Aqueous phase

polymer P₁: 1.5 g (a.i.)
polymer P₂: 3.5 g (a.i.)

45 ethyl alcohol q.s.p: 50° strength

preservative q.s
colorant q.s

water q.s.p: 100 cc

Example 5: 16 cc of oily phase and 4 cc of aqueous phase are mixed, the phases having the following compositions:

Oily phase

linseed oil: 1 cc
antioxidant q.s

55 perfume q.s

colorant q.s

sweet-almond oil q.s.p: 100 cc

Aqueous phase

polymer P₁: 1.5 g (a.i.)

60 polymer P₂: 3.5 g (a.i.)

preservative q.s

colorant q.s

water q.s.p: 100 cc

Example 6: 10 cc of oily phase and 10 cc of aqueous phase are mixed, the phases having the following

compositions:

Oily phase

jojoba oil: 20 cc

antioxidant q.s

perfume q.s

colorant q.s

sesame oil q.s.p: 100 cc

Aqueous phase

identical to that of Example 3

70 75 Example 7: 10 cc of oily phase and 10 cc of aqueous phase are mixed, the phases having the following compositions:

Oily phase

peach stone oil: 10 cc

vaseline oil: 30 cc

preservative q.s

perfume q.s

colorant q.s

olive oil q.s.p: 100 cc

80 85 *Aqueous phase*

identical to that of Example 1

Example 8: 18 cc of oily phase and 2 cc of aqueous phase are mixed, the phases having the following compositions:

90 95 *Oily phase*

Identical to that of Example 7

Aqueous phase

Merquat 100: 3 g (a.i.)

Cartaretine F₄: 5 g (a.i.)

ethyl alcohol q.s.p: 25° strength

preservative q.s

colorant q.s

water q.s.p: 100 cc

Example 9: 16 cc of oily phase and 4 cc of aqueous

100 105 phase are mixed, the phases having the following compositions:

Oily phase

horse grease: 25 cc

antioxidant q.s

110 115 perfume q.s

colorant q.s

wheatgerm oil q.s.p: 100 cc

Aqueous phase

identical to that of Example 5

110 Example 10: 19.5 cc of oily phase and 0.5 cc of aqueous phase are mixed, the phases having the following compositions:

Oily phase

identical to that of Example 2

115 120 *Aqueous phase*

polymer P₁: 60 g (a.i.)

preservative q.s

colorant q.s

water q.s.p: 100 cc

120 Example 11: 10 cc of oily phase and 10 cc of aqueous phase are mixed, the phases having the following compositions:

Oily phase

identical to that of Example 3

125 130 *Aqueous phase*

Merquat 100: 0.3 g (a.i.)

Cartaretine F₄: 0.3 g (a.i.)

preservative q.s

colorant q.s

water q.s.p: 100 cc

7
Example 12: 16 cc of oily phase and 4 cc of aqueous phase are mixed, the phases having the following compositions:

Oily phase

5 antioxidant q.s.
 perfume q.s.
 colorant q.s.
 jojoba oil q.s.p 100 cc
Aqueous phase
 10 Merquat 100: 2 g (a.i.)
 preservative q.s.
 colorant q.s.
 water q.s.p: 100 cc

After shaking, the composition is applied to the 15 skin. It imparts suppleness and softness thereto. Similar results are obtained by applying the composition of Example 2 to the skin.

CLAIMS

1. A composition suitable for application to the 20 skin or the hair, which comprises two separate liquid phases, the first phase being an oily phase and the second phase being an aqueous phase having dissolved therein, at least one cationic polymer.
2. A composition according to claim 1, in which 25 the oily phase contains from 25% to 100% by volume of vegetable oil, relative to the total volume of the oily phase, any remainder consisting of one or more animal, synthetic and/or mineral oils.
3. A composition according to claim 1 or 2, in 30 which the oily phase also contains at least one dissolved antioxidant, colorant or perfume.
4. A composition according to any one of the preceding claims, in which the oily phase is free of 35 silicones.
5. A composition according to any one of the preceding claims, in which the cationic polymer is a polymer of the polyamine, polyaminoamide or poly-(quaternary ammonium) type, the amine or ammonium groups forming part of the polymer 40 chain or being attached to the latter.
6. A composition according to any one of the preceding claims, in which the proportion of the aqueous phase is from 2 to 50% by volume, relative to the total volume of the composition.
7. A composition according to any one of the preceding claims, in which the cationic polymer is 45 present in the composition in an amount of 0.2 to 50% by weight, relative to the total weight of the composition.
8. A composition according to any one of the preceding claims, in which the aqueous phase also 55 contains at least one of a preservative, a thickener, a colorant and a water-soluble solvent.
9. A composition according to claim 7, in which the said water-soluble solvent is an alcohol.
10. A composition according to any one of the preceding claims which is free of detergent.
11. A composition according to claim 1 substantially as described in any one of the Examples.
12. A method of conditioning the hair or the skin 60 which comprises applying thereto a composition as claimed in any one of the preceding claims.
13. A method according to claim 12, in which the composition is shaken in order to obtain a dispersion 65 of the aqueous phase in the oily phase, from 5 to 40

cm³ of the shaken composition are applied to the head of hair, the composition is left to act for at least 5 minutes and the hair is then rinsed.

14. A method according to claim 13, in which the hair is then washed with a shampoo.
15. A method according to claim 12, in which the composition is shaken in order to obtain a dispersion of the aqueous phase in the oily phase, the shaken composition is spread over the skin, the latter 70 optionally being massaged.
16. A method according to claim 12 substantially as hereinbefore described.

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